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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/540,365	06/23/2005	Hiroshi Morikawa	2950-051771	3495

28289 7590 12/03/2007  
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EXAMINER
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YEE, DEBORAH

ART UNIT	PAPER NUMBER
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1793

MAIL DATE	DELIVERY MODE
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12/03/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

Application No.

10/540,365

Applicant(s)

MORIKAWA ET AL.

Examiner

Deborah Yee

Art Unit

1793

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 13 September 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 4-7 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 4-7 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date 9-13-07.
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- ☐ Notice of Informal Patent Application
- ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 4 to 7 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Japanese patent 402270942 (hereinafter JP'942 ) for the reasons set forth in the previous office action dated May 9, 2007.

### ***Response to Arguments***

3. Applicant's arguments filed September 13, 2007 have been fully considered but they are not persuasive. It was submitted that JP'942 fails to teach a work hardened stainless steel sheet having a composition and work-hardened ferritic structure with at least one of  $\text{Al}_2\text{O}_3$  and  $\text{Al}_2\text{O}_3 - \text{MgO}$  inclusions of 10  $\mu\text{m}$  or less in size with an index of cleanliness of 0.06% or less.

4. It is the Examiner's position that JP'942 on page 210 in Tables 1 and 2 discloses specific ferritic stainless example 2 that meets the claimed composition except for 0.009% N , and contains oxides with an index of cleanliness in an amount of 0.015% which is within the claimed range of 0.06% or less. Moreover similar to the present invention, example 2 in table 2 is subjected to 30% cold rolling to form a work-

Art Unit: 1793

hardened ferritic structure and is then tested with tight bending in the C direction to demonstrate excellent bending workability characteristics.

5. Even though prior art steel 2 contains 0.009% N, it would not be excluded by "consisting of" as recited by Applicants' claims. Note that 0.009% N would be equivalent to an inevitable impurity amount conventionally found in stainless steel ( see cited teaching on page 14-2 of Metallurgy of Stainless Steel ); and hence would not be excluded from Applicants' claim that recites steel containing "inevitable impurities" .

6. Applicants stated that in the stainless steel composition of JP'942, it is necessary to reduce the amount of S and O as much as possible and to add Ti and Al in order to improve the workability. Note that JP'942 teaches an Al content of up to 0.2 wt% as opposed to the present invention of up to 0.05 wt%. Thus, JP'942 teaches the need for significantly greater amounts of Ti and Al than the present invention in order to improve the workability of the stainless steel.

7. It is the Examiner's position that JP'942 teaches Ti as an optional deoxidizing element which need not be present. With regard to Al content, JP'942 teaches examples in tables 1 and 2 on page 210 that contain Al within Applicants' Al range of 0.001 to 0.05% to reduce O and S without the use of Ti. Moreover, although prior art S content is reduce to levels of 0.0009% or lower, they are still amounts within Applicants' broad S range of 0.005% or less. Hence claims would not patentably distinguish over prior art.

***Conclusion***

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Deborah Yee whose telephone number is 571-272-1253. The examiner can normally be reached on monday-friday 6:00 am-2:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King can be reached on 571-272-1244. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 1793

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Deborah Yee/  
Primary Examiner  
Art Unit 1793

/DY/